

CLAIMS

Claims 1-21 (cancelled)

Claim 22 (previously presented): A conjugate for inducing specific B cell anergy to a T cell dependent immunogen implicated in an antibody-mediated pathology in an individual suffering from the pathology, wherein said conjugate is formable by the conjugation of:

(a) at least two analog molecules of the immunogen, wherein (1) said analog molecules bind specifically to surface antibody on B cells to which the T cell-dependent immunogen binds specifically, (2) the analog molecules lack T cell epitopes, and (3) the analog molecules are selected from the group consisting of carbohydrates, lipids, lipopolysaccharides, polypeptides, peptides, proteins, glycoproteins, and lipoproteins; and

(b) a chemically defined valency platform molecule, wherein (1) the chemically defined valency platform molecule comprises branching groups (2) the valency of the platform molecule is provided by attachment sites located at termini of the valency platform molecule; and (3) the valency platform molecule is chemically defined in that the number of branching groups pre-determines the number of attachment sites.

Claim 23 (previously presented): The conjugate of claim 22, wherein the branching groups are derived from a functional group selected from the group consisting of a diamino acid, a triamine, and an amino diacid.

Claim 24 (previously presented): The conjugate of claim 22, wherein the analog molecules are the same.

Claim 25 (previously presented): The conjugate of claim 22, wherein said conjugate comprises four analog molecules.

Claim 26 (cancelled)

Claim 27 (cancelled)

Claim 28 (previously presented): The conjugate of claim 22, wherein the analog molecules are proteins.

Claim 29 (previously presented): A pharmaceutically acceptable composition comprising the conjugate of claim 22, and a pharmaceutically acceptable carrier.

Claim 30 (previously presented): The composition of claim 29, wherein the composition is suitable for injection.

Claim 31 (previously presented): The conjugate of claim 22, wherein the conjugate comprises a polyethylene glycol moiety.

Claim 32 (previously presented): The conjugate of claim 22, wherein the valency platform molecule comprises a polyethylene glycol moiety.

Claim 33 (previously presented): The conjugate of claim 22, wherein the conjugate comprises a moiety having the formula $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_r\text{CH}_2-$, wherein $r=0$ to 300.

Claim 34 (previously presented): The conjugate of claim 22, wherein the valency platform molecule comprises a moiety having the formula $-\text{CH}_2(\text{CH}_2\text{OCH}_2)_r\text{CH}_2-$, wherein $r=0$ to 300.

Claim 35 (previously presented): The conjugate of claim 22, wherein the valency platform molecule comprises a triethylene glycol moiety.

Claim 36 (previously presented): The conjugate of claim 22, wherein the antibody mediated pathology is stroke.

Claim 37 (previously presented): The conjugate of claim 22, wherein the immunogen is an external immunogen.

Claim 38 (previously presented): The conjugate of claim 37, wherein the external immunogen is a biological drug, allergen or a D immunogen associated with Rh hemolytic disease.

Claim 39 (previously presented): The conjugate of claim 22, wherein the immunogen is a self-immunogen.

Claim 40 (previously presented): The conjugate of claim 39, wherein the immunogen is a cardiolipin.

Claim 41 (previously presented): The conjugate of claim 39, wherein the self-immunogen is that associated with thyroiditis, diabetes, stroke, male infertility, myasthenia gravis, or rheumatic fever.

Claim 42 (previously presented): The conjugate of claim 22, wherein the immunogen and analog molecules are same chemical class.

Claim 43 (previously presented): The conjugate of claim 42, wherein the immunogen and the analog molecules are polypeptides.

Claim 44 (previously presented): The conjugate of claim 22, wherein the immunogen and the analog molecules are of different chemical classes.

Claim 45 (previously presented): The conjugate of claim 22, wherein the antibody-mediated pathology is an autoimmune disorder and the associated immunogen is unidentified.

Claim 46 (previously presented): The conjugate of claim 22, wherein the analog molecules are selected from the group consisting of peptides, polypeptides, and proteins.

Claim 47 (previously presented): The conjugate of claim 22, wherein the analog molecules are selected from the group consisting of glycoproteins, lipoproteins, carbohydrates, lipids and lipopolysaccharides.

Claim 48 (previously presented): A method of inducing specific B cell anergy to a T cell-dependent immunogen in an individual comprising administering to the individual an effective amount of the composition of claim 29.

Claim 49 (previously presented): A method of treating an individual for an antibody-mediated pathology in which undesired antibodies are produced in response to a T cell-dependent immunogen comprising administering a therapeutically effective amount of the composition of claim 29 to the individual.

Claim 50 (previously presented): A method of making the conjugate of claim 22, the method comprising forming the conjugates by covalently bonding the analog molecules to the valency platform molecule.

Claim 51 (previously presented): A method of making the composition of claim 29, the method comprising combining the conjugate with a pharmaceutically acceptable carrier.

Claim 52 (previously presented): The conjugate of claim 22, wherein the branching groups are derived from a functional group that is a triamine.

Claim 53 (previously presented): The conjugate of claim 22, wherein the analog molecules are carbohydrates.

Claim 54 (previously presented): The conjugate of claim 22, wherein the analog molecules are lipids.

Claim 55 (previously presented): The conjugate of claim 22, wherein the analog molecules are lipopolysaccharides.

Claim 56 (previously presented): The conjugate of claim 22, wherein the analog molecules are polypeptides.

Claim 57 (previously presented): The conjugate of claim 22, wherein the analog molecules are peptides.

Claim 58 (previously presented): The conjugate of claim 22, wherein the analog molecules are glycoproteins.

Claim 59 (previously presented): The conjugate of claim 22, wherein the analog molecules are lipoproteins.

Claim 60 (previously presented): The conjugate of claim 32, wherein the valency platform molecule comprises a polyethylene glycol moiety having a molecular weight of about 200 to about 8,000.

Claim 61 (previously presented): The conjugate of claim 22, wherein the conjugate comprises linking groups that bind the valency platform molecule to the analog molecules.

Claim 62 (previously presented): A method of making the conjugate of claim 61, wherein the method comprises bonding the linking groups to the valency platform molecule at the attachment sites and bonding the linker-valency platform molecule to the analog molecules to form the conjugate.

Claim 63 (previously presented): A method of making the conjugate of claim 61, wherein the method comprises bonding the linking groups to the analog molecules and bonding the linker-analog molecules to the valency platform molecule at the attachment sites to form the conjugate.

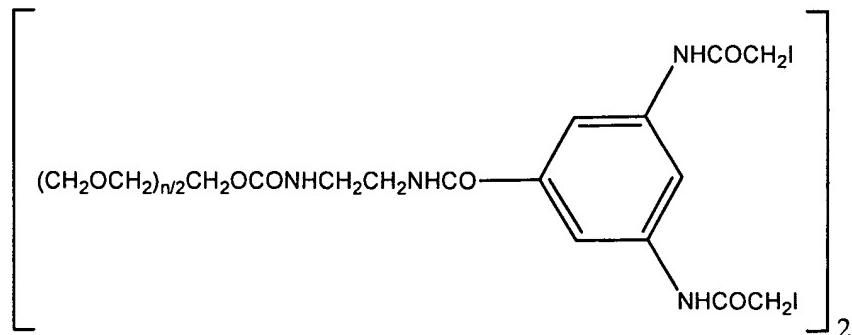
Claim 64 (previously presented): A method of making the conjugate of claim 61, wherein the method comprises forming the conjugates by covalently bonding the analog molecules to the chemically defined valency platform molecule via linking groups.

Claim 65 (previously presented): A pharmaceutically acceptable composition comprising the conjugate of claim 61 and a pharmaceutically acceptable carrier.

Claim 66 (previously presented): A pharmaceutically acceptable composition comprising the conjugate of claim 48 and a pharmaceutically acceptable carrier.

Claim 67 (previously presented): A pharmaceutically acceptable composition comprising the conjugate of claim 49 and a pharmaceutically acceptable carrier.

Claim 68 (previously presented): The composition of claim 22, wherein the composition comprises a valency platform molecule of the formula:



wherein n is approximately 74.